EURORACK PRO RX1202FX

User's Manual

GB

Version 1.0 February 2006

www.behringer.com

BEHRINGER®
JUST LISTEN.

IMPORTANT SAFETY INSTRUCTIONS

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CAUTION: To reduce the risk of electric shock, do not remove the top cover (or the rear section). No user serviceable parts inside; refer servicing to qualified personnel.

WARNING: To reduce the risk of fire or electric shock, do not expose this appliance to rain and moisture. The apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.

This symbol, wherever it appears, alerts you to the presence of uninsulated dangerous voltage inside the enclosure—voltage that may be sufficient to constitute a risk of shock.

This symbol, wherever it appears, alerts you to important operating and maintenance instructions in the accompanying literature. Please read the manual.

DETAILED SAFETY INSTRUCTIONS:

1) Read these instructions.

2) Keep these instructions.

3) Heed all warnings.

4) Follow all instructions.

5) Do not use this apparatus near water.

6) Clean only with dry cloth.

7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

11) Only use attachments/accessories specified by the manufacturer.

12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13) Unplug this apparatus during lightning storms or when unused for long periods of time.

14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

15) CAUTION - These service instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operation instructions unless you are qualified to do so.

EURORACK PRO

Ultra Low-Noise Design 12-Input Mic/Line Rack Mixer with Premium Mic Preamplifiers and 24-Bit Multi-FX Processor

- Ultra low-noise ULN design, highest possible headroom, ultra-transparent audio
- 8 new state-of-the-art, studio-grade IMP "Invisible" Mic Preamps with:
  - 130 dB dynamic range for 24-bit, 192 kHz sampling rate inputs
  - Ultra-wide 60 dB gain range
- Integrated 24-bit digital stereo FX processor with 100 awesome presets including reverb, chorus, flanger, delay, pitch shifter and various multi-effects
- Effective, extremely musical 2-band EQ and Clip LED on all channels
- 4 balanced high-headroom line inputs
- State-of-the-art 4580 operational amplifiers provide lowest noise and distortion — better than 4560 op amps
- 2 aux sends per channel: 1 pre fader for monitoring applications, 1 post fader for internal FX or as external send
- CD/tape inputs assignable to main mix or control room/phones outputs
- Separate control room, phones and stereo CD/tape outputs
- Balanced main mix outputs with gold-plated XLR connectors
- Switchable +48 V phantom power for condenser microphones
- Long-wearing 60 mm logarithmic-taper faders and sealed rotary controls
- Internal switch-mode power supply for maximum flexibility (100 – 240 V~), noise-free audio, superior transient response plus lowest possible power consumption for energy saving
- High-quality components and exceptionally rugged construction ensure long life
- Conceived and designed by BEHRINGER Germany

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FOREWORD

Dear Customer,

Welcome to the community of EURORACK PRO users and thank you very much for expressing your confidence in BEHRINGER products by purchasing the RX1202FX. It is one of my most pleasant tasks to write this letter to you, because it is the culmination of many months of hard work delivered by our engineering team to reach a very ambitious goal: to design an outstanding device whose high level of functionality will give you maximum performance.

The task to design our new EURORACK PRO certainly meant a great deal of responsibility. You, the discerning user and musician, were the focus of our entire development efforts. It also meant a lot of work and night shifts to accomplish this goal. But it was fun, too. Developing a product usually brings a lot of people together, and what a great feeling it is when everybody who participated in such a project can be proud of what we've achieved.

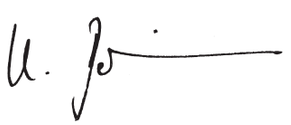
It is our philosophy to share our joy with you, because you are the most important member of the BEHRINGER family. With your highly competent suggestions for new products you've greatly contributed to shaping our company and making it successful. In return, we guarantee you uncompromising quality as well as excellent technical and audio properties at an extremely favorable price. All of this will enable you to fully unfold your creativity without being hampered by budget constraints.

We are often asked how we can make it to produce such high-grade devices at such unbelievably low prices. The answer is quite simple: it's you, our customers! Many satisfied customers means large sales volumes enabling us to get better conditions of purchase for components, etc. Isn't it only fair to pass this benefit back to you? Because we know that your success is our success, too!

I would like to thank all people whose help on "Project EURORACK PRO RX1202FX" has made it all possible. Everybody has made very personal contributions, starting from the designers of the unit via the many staff members in our company to you, the user of BEHRINGER products.

My friends, it's been worth the trouble!

Thank you very much,



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1. INTRODUCTION

Congratulations! In purchasing our EURORACK PRO RX1202FX you have acquired a mixing console whose small size belies its incredible versatility and audio performance.

With 8 phantom-powered microphone inputs as well as 4 high-headroom line inputs, the RX1202FX comprises a total of 12 channels. All channels come with 60-mm faders and the extremely musical 2-band EQ, the clip LEDs, as well as the 2 aux sends enable an uncompromising functionality of the console. An integrated power supply guarantees optimal flexibility through worldwide independence of any mains connection. Additionally, it offers an absolutely noiseless audio signal as well as an outstanding transient response by minimal power consumption. With first-class "Invisible" Mic Preamps, the ultra-low noise circuitry, the 24-bit effects processor as well as the separate control room, headphones and CD/tape outputs, the RX1202FX has all the features that also distinguish our UB mixers.

As sub-mixer, monitor mixer or as line mixer for audio/video installations, the RX1202FX is the first choice for demanding fixed installations and mobile use.

IMP "INVISIBLE" MIC PREAMP

The microphone channels are fitted with BEHRINGER's premium quality IMP INVISIBLE MIC PREAMPs that boast the following features:

- ▲ 130 dB dynamic range for an incredible amount of headroom
- ▲ A bandwidth ranging from below 10 Hz to over 200 kHz for crystal-clear reproduction of even the finest nuances
- ▲ The extremely low-noise and distortion-free circuitry guarantees absolutely natural and transparent signal reproduction

- They are perfectly matched to every conceivable microphone with up to 60 dB gain and +48 volt phantom power supply
- They enable full utilization of the greatly extended dynamic range of your 24-bit/192 kHz HD recorder, thereby maintaining optimal audio quality.

MULTI-EFFECTS PROCESSOR

In addition, the RX1202FX offers an effects processor equipped with 24-bit A/D and D/A converters. The FX processor puts at your disposal 100 presets with first-class room simulations, delay and modulation effects, and many multi-effects in outstanding audio quality.

CAUTION!

☞ **We would like to inform you that high volume can damage your hearing and/or the headphones or loudspeakers. Before turning on the device, please move the MAIN MIX fader of the main section all the way down. Always take care to keep an appropriate volume level.**

1.1 General mixing console functions

A mixing console fulfils three main functions:

- **Signal processing**:

  Preamplification
  Microphones convert sound waves into voltage that has to be amplified several-fold; then, this voltage is turned into sound that is reproduced in a loudspeaker. Because microphone capsules are very delicate in their construction, output voltage is very low and therefore susceptible to interference. Therefore, mic signal voltage is amplified directly at the mixer input to a higher signal level that is less prone to interference. This higher, interference-safe signal level has to be achieved through amplification using an amplifier of the highest quality in order to amplify the signal and add as little noise to it as possible. The IMP “Invisible” Mic Preamp performs this role beautifully, leaving no traces of noise or sound coloration. Interference that could take place at the preamplification level could affect signal quality and purity, and would then be passed on to all other devices, resulting in inaccurate sounding program during recording or playback.

  Level-setting
  Signals fed into the mixer using a DI box (**D**irect **I**njection) or the output of a sound card or a keyboard, often have to be adjusted to the operating level of your mixing console.

  Frequency response correction
  Using the equalizers found in each channel strip, you can simply, quickly and effectively adjust the way a signal sounds.

- **Signal distribution**:

  Individual, processed signals from the channel strips are compiled on busses and are fed into the main section for further processing. Connections for recording equipment, power amplifiers, headphones as well as CD/tape connectors are available here. The mix is sent to the internal FX processors or external effects processors via aux sends and returns. Similarly, a mix can be created for the musicians on the stage (monis a conva.

- **Mix**:

  All other mixing console functions fall under this vital category. Creating a mix means primarily adjusting the volume levels of individual instruments and voices to one another as well as giving them the appropriate weight within the overall frequency spectrum. Likewise, you’ll have to sensibly spread individual voices across the stereo image of a signal. At the end of this process, adjusting the level of the entire mix to other equipment in the signal path is required (e. g. recorder/crossover/amplifierva.

The interface of BEHRINGER mixing consoles is optimized for these tasks, enabling you to easily keep track of the signal path.

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1.2 The user’s manual

The user’s manual is designed to give you both an overview of the controls, as well as detailed information on how to use them. In order to help you understand the links between the controls, we have arranged them in groups according to their function. If you need to know more about specific issues, please visit our website at http://www.behringer.com. Additional information and explanations about various music industry/audio technology terminology can be found on individual product pages as well as in the glossary area of www.behringer.com.

☞ **The block diagram supplied with the mixing console gives you an overview of the connections between the inputs and outputs, as well as the associated switches and controls.**

For the moment, just try and trace the signal path from the microphone input to the FX SEND connector. Don’t be put off by the huge range of possibilities; it’s easier than you think! If you look at the overview of the controls at the same time, you’ll be able to quickly familiarize yourself with your mixing console and you’ll soon be making the most of all its many possibilities.

1.3 Before you get started

1.3.1 Shipment

Your mixing console was carefully packed in the factory to guarantee safe transport. Nevertheless, we recommend that you carefully examine the packaging and its contents for any signs of physical damage that may have occurred during transit.

☞ **If the unis is damaged, please do NOT return it to us, but notify your dealer and the shipping company immediately, otherwise claims for damage or replacement may not be granted.**

☞ **To assure optimal protection of your EURORACK during use or transport, we recommend utilizing a carrying case.**

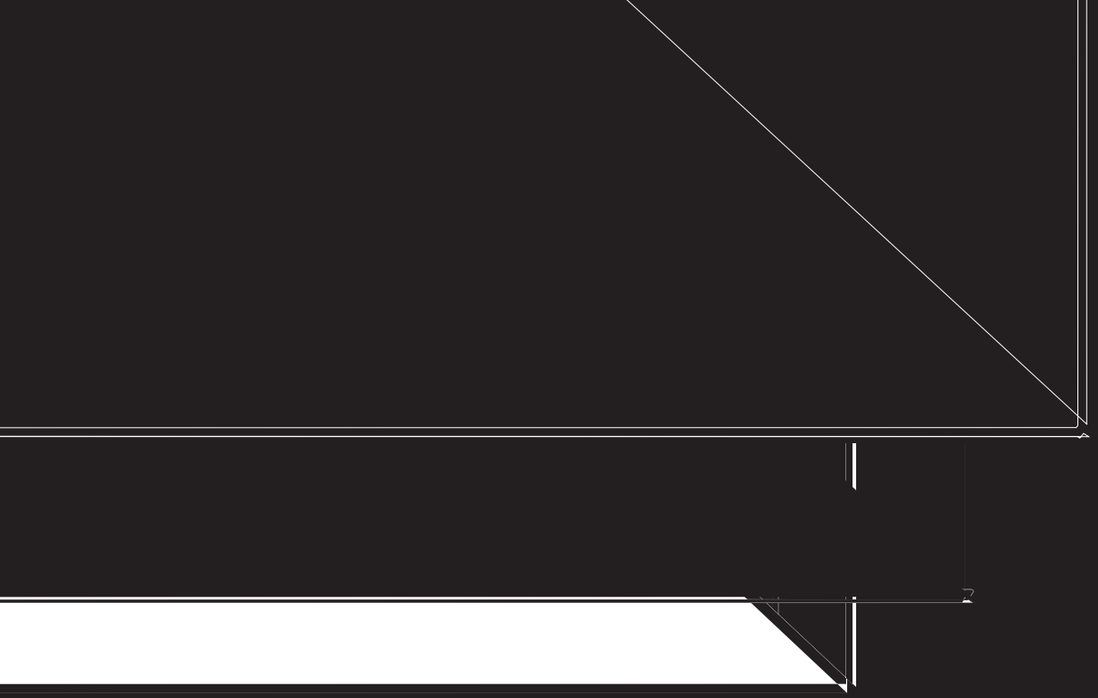
☞ **Please always use the original packaging to avoid damage due to storage or shipping.**

☞ **Never let unsupervised children play with the EURORACK or with its packaging.**

☞ **Please dispose of all packaging materials in an environmentally-friendly fashion.**

1.3.2 Inisial operation

Be sure that there is enough space around the unis for cooling purposes and to avoid overheating please do not place your mixing console on high-temperature equipment such as radiators or power amps.



The second value range (**+10** to **-40 dBu)** refers to the line input and shows its **sensitivity**. The settings for equipment with standard line-level signals (-10 dBV or +4 dBu) look like this: While the TRIM control is turned all the way down, connect your equipment. Set the TRIM control to the external devices' standard output level. If that unit has an output signal level display, it should show 0 dB during signal peaks. For +4 dBu, turn up TRIM slightly, for -10 dBV a bit more. Tweaking is done using the CLIP LED.

HIGH/LOW

All mono input channels include a 3-band equalizer. All bands provide boost or cut of up to 15 dB. In the central position, the equalizer is inactive.

The upper (HIGH) and the lower band (LOW) are shelving filters that increase or decrease all frequencies above or below their cut-off frequency. The cut-off frequencies of the upper and lower band are 12 kHz and 80 Hz respectively.

MON/FX

FX send buses (or AUX send buses) enable you to extract signals from one or more channels and collect these on a bus. You can retrieve the signal at the send connector to direct it to an external effects device, for example. The AUX return input is used as the return path. The send buses of the RX1202FX are mono buses.

As the name suggests, the FX sends of the EURORACK mixing consoles are intended to drive effects devices (reverb, delay, etc.) and are therefore configured post-fader. This means that the mix between dry signal and effect remains at the level determined by the channel's aux send, irrespective of the channel fader setting. If this were not the case, the effects signal of the channel would remain audible even when the fader is lowered to zero.

In the RX1202FX, the FX send is routed directly to the built-in effects processor. To make sure that the effects processor receives an input signal, you shouldn't turn this control all the way to the left (-∞).

The MON path—as the name already implies—is meant to be used as monitor signal path. For this application, it is important that the controller works as pre-fader, which means it does not rely on the fader position. For this reason the AUX send path is unsuitable for the connection to effects devices. By using the MON controller, you can produce a mono mix of individual signals that can be routed over the MON plug, located on the backside, to a headphones amplifier (e.g. MINIAMP AMP800) or a power amplifier for monitoring.

PAN

The *PAN* control determines the position of the channel signal within the stereo image. This control features a constant-power characteristic, which means the signal is always maintained at a constant level, irrespective of position in the stereo panorama.

CLIP

The *CLIP* LEDs of the mono channels illuminate when the input signal is driven too high, which could cause distortion. If this happens, use the TRIM control to reduce the preamp level until the LED does not light anymore.

Channel fader

The channel fader determines the level of the channel signal in the Main Mix.

☞ **Caution: The channel fader needs to be open so that the effects processor receives a signal from this channel because the FX bus to the effects processor is switched to post-fader!**

2.2 Stereo channels

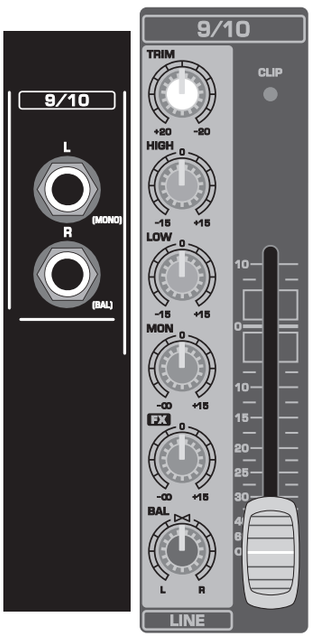


Fig. 2.2: Connectors and controls on the stereo channels

LINE IN

Each stereo channel has two balanced line level inputs on 1/4" connectors for left and right channels. If only the connector marked "L" (left) is used, the channel operates in mono. The stereo channels are designed to handle typical line level signals. Both inputs will also accept unbalanced connectors.

TRIM

The controller works the same as the one for the mono channels. However, the level control range is limited from **+20** to **-20 dBu** because the stereo channels only process line signals.

HIGH/LOW

The stereo-channel equalizer features 2 bands like the one used for the mono channels.

MON/FX

The MON/FX buses of the stereo channels work like those of the mono channels. Since both paths are mono, the signal of a stereo channel is initially mixed to a summed mono signal before reaching the MON/FX bus.

BAL

The *BAL*(ANCE) control determines the levels of left and right input signals relative to each other before both signals are then routed to the main stereo mix bus. If a channel is operated in mono via the left line input, this control has the same function as the PAN control used in the mono channels.

CLIP

The *CLIP* LEDs of the stereo channels light up when the input signal's level is too high. In this case, reduce the preamplification with the TRIM controller until the LED goes out.

Channel fader

As with the mono channels, the channel fader determines the level of the channel strip for the stereo channels in the main mix.

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2.3 Connector array of the main section

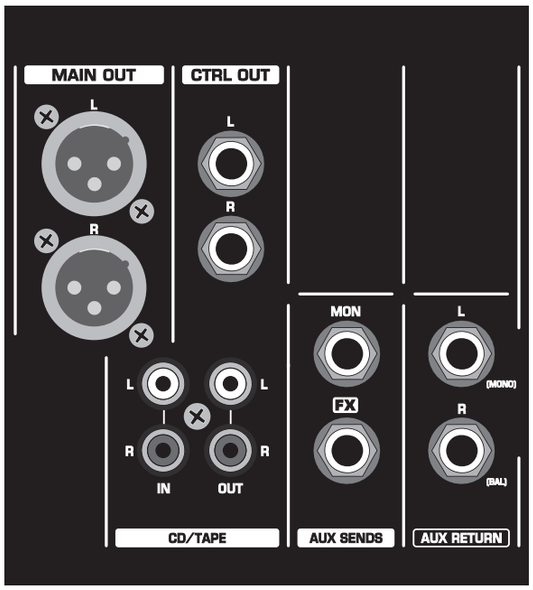

Fig.2.3: Connectors of the main section

MAIN OUT

The *MAIN OUT* connectors are balanced and laid out as XLR connectors. Here the summed signal of the main mix has a level of 0 dBu. According to the way you want to use the mixer and which equipment you have, following devices can be connected:

Live PA systems:

A stereo dynamics processor (optional), stereo equalizer (optional) and the stereo power amplifier for full-range loudspeakers with passive crossovers.

If you wish to use multi-way loudspeaker systems without an integrated crossover, you have to use an active crossover and several power amplifiers. Often, limiters are already built into active crossovers (e.g. BEHRINGER SUPER-X PRO CX2310 and ULTRADRIVE PRO DCX2496). Active crossovers are implemented directly before the power amplifier, and they divide the frequency range into several segments that are first amplified in the amplifiers and then passed on to the corresponding loudspeakers.

Recording:

For mastering, using a stereo compressor such as the COMPOSER PRO-XL MDX2600 can be recommended. Use it to custom-tailor the dynamic characteristics of your signal to the dynamic range of the recording equipment you are using. The signal is in this case passed on from the compressor into the recorder.

CTRL OUT

The *CTRL OUT* connectors are used for controlling the summed signal (effects mix and main mix) as well as for individual signals over studio monitor speakers. By using the PHONES/CONTROL ROOM controller in the main section, you can control the level of both outputs.

CD/TAPE IN

The *CD/TAPE IN*s are used to bring an external signal source (e.g. CD player, tape deck, etc.) into the console. They can also be used as a standard stereo line input, so the output of a second EURORACK or BEHRINGER ULTRALINK PRO MX882 can be connected. Alternatively, the line or tape output of a hi-fi amplifier with source selection switch could also be hooked up here, allowing you to easily listen to additional sources (e.g. cassette recorder, minidisk player, sound card etc.).

CD/TAPE OUT

These connections are laid out as RCA connectors and are wired parallel to MAIN OUT. Connect the inputs of a computer sound card or a recorder here. The output signal level is set up using the highly accurate MAIN MIX fader.

AUX SENDS

The *FX* connector routes the signal, which you have extracted from the individual channels by using the FX controller; the MON plug does the same to the signal that has been extracted by using the MON controller. Connect the input of an external effects processor to the FX plug, with which you want to modify the signal sum of the FX bus. Then, route the effects signal back to the mixer over the AUX RETURN connectors. With the MON outputs, you can connect an amplifier/headphones amplifier for the musicians to monitor.

☞ **When the connected effects device does not receive an input signal, none of the FX controllers are probably turned up, which also applies to the integrated effects -processor.**

☞ **Adjust your external effects processor to 100% wet (effects signal only), because the effects signal is added to the main mix along with the “dry” channel signals.**

AUX RETURN

You can connect the outputs of an external effects device to the *AUX RETURN* connectors. In this case, the effects signal is routed directly to the main mix bus and is then mixed with the “dry” signal. It is also possible to route the effects signal (uIn En-0.w(be cou er; the MON)TjT*0.00 hTjT*ffects

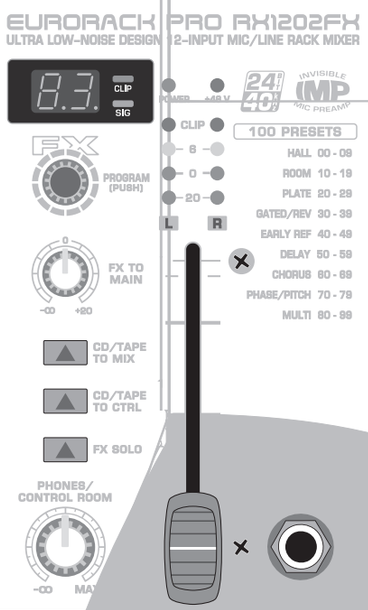

Fig. 2.4: Control elements of the main section

+48 V

The red "*+48 V*"-LED lights up when the phantom power supply is switched on. Phantom powering is necessary to use condenser microphones and is activated with the PHANTOM ON switch found on the backside.

☞ **Connect microphones <u>before</u> you switch on the phantom power supply. Please do not connect microphones to the mixer (or the stagebox/ wallbox) while the phantom power supply is switched on. In addition, the monitor/PA loudspeakers should be muted before you activate the phantom power supply. After switching on, wait approx. one minute to allow for system stabilization.**

☞ **Caution! You must never use unbalanced XLR connectors (PIN 1 and 3 connected) on the MIC input connectors if you want to use the phantom power supply.**

POWER

The blue *POWER* LED indicates that the console is powered on.

LEVEL INDICATOR

The 4-segment display accurately displays the relevant signal level.

Level Control:

To level the signal, you should set the channel fader of the input channels to 0 dB and raise the input amplification with the TRIM controller to the extent that a level of maximal 0 dB is displayed.

When recording to digital recorders, the recorder's peak meter should not go into overload. While analog recorders can be overloaded to some extent, creating only a certain amount of distortion, digital recorders distort quickly when overloaded. In addition, digital distortion is not only undesirable, but also renders your recording completely useless.

When recording to an analog device, the VU meters of the recording machine should reach approx. +3 dB with low-frequency signals (e.g. kick drum). Due to theio70.0.iae VU meter-frequenies above0 1 Hz.-

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2.5 Digital effects processor

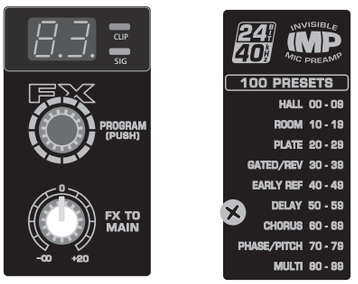


Fig. 2.5: Effects section

100 FIRST-CLASS EFFECTS

The EURORACK RX1202FX features a built-in digital stereo effects processor. This effects processor offers a large number of standard effects such as Hall, Chorus, Flanger, Delay and various combination effects. Using the FX control, you can feed signals into the effects processor. The integrated effects module has the advantage of requiring no wiring. This way, the danger of creating ground loops or uneven signal levels is eliminated at the outset, completely simplifying the handling.

SIG and CLIP LED

The *SIG* LED on the effects module shows the presence of a signal whose level is high enough. This LED should always be on. However, make sure that the *CLIP* LED lights up only sporadically. If it is lit constantly, you are overdriving the effects processor, which leads to unpleasant distortion. If this occurs, turn the FX controls down somewhat.

PROGRAM

The *PROGRAM* control has two functions: by **turning** the *PROGRAM* control, you dial the number of an effect. The number of the preset you just dialed up blinks in the display. To confirm your selection, **press** the PROGRAM control; the blinking stops.

FX TO MAIN

By using the *FX TO MAIN* controller, the effects signal is sent to the main mix. No effects signal is to be heard in the summed signal of the mixer when the controller is positioned entirely to the left. Choose this position if you want to use an external effects device for the FX output.

An overview of all the multieffect processor's presets are to be found in the appendix.

2.6 Voltage supply, phantom power supply and fuse

FUSE HOLDER/IEC MAINS RECEPTACLE

The mains connection is made via a cable with an IEC mains connector and meets the required safety standards. An appropriate mains cable is supplied with the equipment. Blown fuses must only be replaced by fuses of the same type and rating.

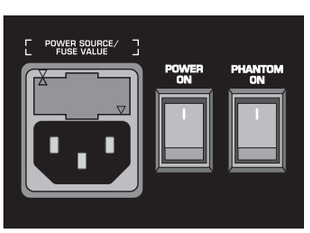


Fig. 2.6: Voltage supply and fuse

POWER switch

Use the *POWER* switch to turn on the mixing console. The POWER switch should always be in the "Off" position when you are about to connect your unit to the mains.

To disconnect the unit from the mains, pull out the main cord plug. When installing the product, ensure that the plug is easily accessible. If mounting in a rack, ensure that the mains can be easily disconnected by a plug pull or by an all-pole disconnect switch on or near the rack.

☞ **Attention: The POWER switch does not fully disconnect the unit from the mains. Unplug the power cord completely when the unit is not used for prolonged periods of time.**

PHANTOM switch

The *PHANTOM* switch activates the phantom power (necessary to operate condenser microphones) on the XLR sockets of the mono channels. The red *+48 V* LED illuminates when phantom power is on. As a rule, dynamic microphones can still be used with phantom power, provided that they are wired in a balanced configuration. In case of doubt, contact the microphone manufacturer!

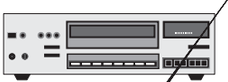
☞ **Connect microphones <u>before</u> you switch on the phantom power supply. Please do not connect microphones to the mixer (or the stagebox/ wallbox) while the phantom power supply is switched on. In addition, the monitor/PA loudspeakers should be muted before you activate the phantom power supply. After switching on, wait approx. one minute to allow for system stabilization.**

☞ **Caution! Please also note the information given in chapter 4.2 "Audio connections".**

SERIAL NUMBER

Please note the important information on the serial number given in chapter 1.3.3.

EUROPOWER
EP1500



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4. INSTALLATION

4.1 Mains connection

AC POWER IN

The power supply is delivered through the power supply line to be found on the backside. The connection complies with the required security regulations.

☞ **Never connect the EURORACK to the power supply line while the latter is already connected to the mains! Rather connect the console with the power supply line before plugging it into the mains.**

☞ **Please note that the mixer warms up when in operation. This is absolutely normal.**

4.2 Audio connections

You will need a large number of cables for different applications. The illustrations below show how the connectors should be wired. Be sure to use only high-grade cables.

Please use commercial RCA cables to connect the CD/tape inputs and outputs.

You can, of course, also connect unbalanced equipment to the balanced inputs/outputs. To do this, use either mono plugs or stereo plugs with the ring and sleeve bridged (pins 1 and 3 in the case of XLR connectors).

☞ **Caution! Never use unbalanced XLR connectors (PIN 1 and 3 connected) on the MIC input connectors when using the phantom power supply.**

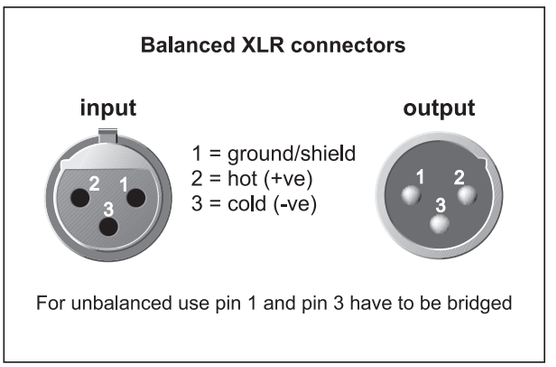
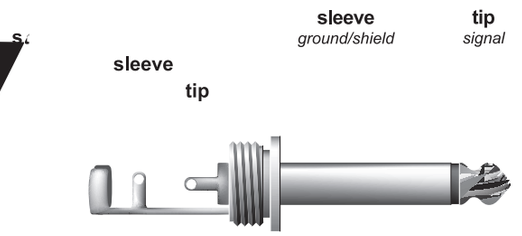

Balanced XLR connectors
input
output
1 = ground/shield
2 = hot (+ve)
3 = cold (-ve)
For unbalanced use pin 1 and pin 3 have to be bridged

Fig. 4.1: XLR connections



GB

5. SPECIFICATIONS

MONO INPUTS

MIC (IMP Invisible Mic Preamp)

Type	XLR, electr. balanced
Mic E.I.N. (20 Hz – 20 kHz)	
@ 0 Ω source resistance	-132 dB / -134 dB A-weighted
@ 50 Ω source resistance	-130 dB / -132 dB A-weighted
@ 150 Ω source resistance	-128 dB / -130 dB A-weighted
Frequency response	<10 Hz – 200 kHz
Gain range	+10 to +60 dB
Max. input level	+12 dBu @ +10 dB gain
Impedance	approx. 2.6 kΩ balanced
Signal-to-noise ratio	-110 dB / -112 dB A-weighted
Distortion (THD+N)	0.003%, A-weighted

LINE IN

Type	¼" TRS connector, electronically balanced
Impedance	approx. 20 kΩ balanced 10 kΩ unbalanced
Gain range	-10 dB to +40 dB
Max. input level	+22 dBu @ 0 dB gain

STEREO INPUTS

Type	¼" TRS connector, electronically balanced
Impedance	approx. 20 kΩ balanced 10 kΩ unbalanced
Max. input level	+22 dBu

INSERT

Type	¼" TRS connector (Tip=Send, Ring=Return)

AUXILIARY INPUTS

CD/TAPE IN

Type	RCA connectors, unbalanced
Impedance	approx. 20 kΩ
Max. input level	+22 dBu

AUX RETURN

Type	¼" TRS connector, balanced
Impedance	approx. 20 kΩ balanced 10 kΩ unbalanced
Max. input level	+22 dBu

OUTPUTS

AUX SENDS (FX)

Type	¼" TRS connector, impedance balanced
Impedance	approx. 240 Ω balanced 120 Ω unbalanced
Max. output level	+22 dBu

AUX SENDS (MON)

Type	¼" TRS connector, impedance balanced
Impedance	approx. 240 Ω balanced 120 Ω unbalanced
Max. output level	+22 dBu

MAIN OUT

Type	XLR connectors, balanced
Impedance	approx. 240 Ω balanced 120 Ω unbalanced
Max. output level	+28 dBu balanced +22 dBu unbalanced

CTRL OUT

Type	¼" TRS connector, impedance balanced
Impedance	approx. 240 Ω balanced 120 Ω unbalanced
Max. output level	+22 dBu

CD/TAPE OUT

Type	RCA connectors, unbalanced
Impedance	approx. 1 kΩ
Max. output level	+22 dBu

PHONES

Type	¼" TRS connector
Max. output level	+19 dBu / 150 Ω (316 mW)

EQ

Low	100 Hz / ±15 dB
High	12 kHz / ±15 dB

MAIN MIX SYSTEM DATA[1]

Noise	
Main mix @ -∞,	
Channel fader -∞	-98 dB / -101 dB A-weighted
Main mix @ 0 dB,	
Channel fader -∞	-85 dB / -88 dB A-weighted
Main mix @ 0 dB,	
Channel fader @ 0 dB	-77 dB / -80 dB A-weighted

Fade attenuation[2] (Crosstalk attenuation)

Main fader closed	90 dB
Channel fader closed	90 dB

Frequency response

Microphone input to Main Out	
<20 Hz – 105 kHz	+1 dB / -1 dB
<10 Hz – 170 kHz	+3 dB / -3 dB

EFFECTS SECTION

Converter	24-bit Sigma-Delta
Frequency rate	40 kHz
Presets	100

POWER SUPPLY

Power consumption	18 W
Voltage	100 – 240 V~, 50/60 Hz
Fuse	100 – 240 V~: T 1.6 A H 250 V
Mains connection	IEC (power) cable

DIMENSIONS/WEIGHT
RX1202FX

Dimensions (H x W x D)	approx. 5 1/5" x 19" x 5 9/10" (133 mm x 482 mm x 150 mm)
Weight (net)	approx. 6.4 lbs. (2.9 kg)

Measuring conditions:

1: 20 Hz – 20 kHz; measured at main output. Channels1 – 8 gain @ unity; EQ flat; all channels on main mix; channels 1/3/5/7 leftmost, channels 2/4/6/8 rightmost. Reference = +6 dBu.

2: 1 kHz relative to 0 dBu; 20 Hz – 20 kHz; line input; main output; gain @ unity.

BEHRINGER is constantly striving to manintain the highest professional standards. As a result of these efforts, modifications may be made from time to time to existing products without prior notice. Specifications and appearance may differ from those listed or illustrated.

6. WARRANTY

§ 1 OTHER WARRANTY RIGHTS AND NATIONAL LAW

1. This warranty does not exclude or limit the buyer's statutory rights provided by national law, in particular, any such rights against the seller that arise from a legally effective purchase contract.

2. The warranty regulations mentioned herein are applicable unless they constitute an infringement of national warranty law.

§ 2 ONLINE REGISTRATION

Please do remember to register your new BEHRINGER equipment right after your purchase by visiting www.behringer.com (alternatively www.behringer.de) and kindly read the terms and conditions of our warranty carefully.

Registering your purchase and equipment with us helps us process your repair claims quicker and more efficiently.

Thank you for your cooperation!

§ 3 WARRANTY

1. BEHRINGER (BEHRINGER International GmbH including all BEHRINGER subsidiaries listed on the enclosed page, except BEHRINGER Japan) warrants the mechanical and electronic components of this product to be free of defects in material and workmanship for a period of one (1) year* from the original date of purchase, in accordance with the warranty regulations described below. If the product shows any defects within the specified warranty period that are not excluded from this warranty as described under § 5, BEHRINGER shall, at its discretion, either replace or repair the product using suitable new or reconditioned parts. In the case that other parts are used which constitute an improvement, BEHRINGER may, at its discretion, charge the customer for the additional cost of these parts.

2. If the warranty claim proves to be justified, the product will be returned to the user freight prepaid.

3. Warranty claims other than those indicated above are expressly excluded.

§ 4 RETURN AUTHORIZATION NUMBER

1. To obtain warranty service, the buyer (or his authorized dealer) must call BEHRINGER (see enclosed list) during normal business hours **BEFORE** returning the product. All inquiries must be accompanied by a description of the problem. BEHRINGER will then issue a return authorization number.

2. Subsequently, the product must be returned in its original shipping carton, together with the return authorization number to the address indicated by BEHRINGER.

3. Shipments without freight prepaid will not be accepted.

§ 5 WARRANTY REGULATIONS

1. Warranty services will be furnished only if the product is accompanied by a copy of the original retail dealer's invoice. Any product deemed eligible for repair or replacement under the terms of this warranty will be repaired or replaced.

2. If the product needs to be modified or adapted in order to comply with applicable technical or safety standards on a national or local level, in any country which is not the country for which the product was originally developed and manufactured, this modification/adaptation shall not be considered a defect in materials or workmanship. The warranty does not cover any such modification/adaptation, irrespective of whether it was carried out properly or not. Under the terms of this warranty, BEHRINGER shall not be held responsible for any cost resulting from such a modification/adaptation.

3. Free inspections and maintenance/repair work are expressly excluded from this warranty, in particular, if caused by improper handling of the product by the user. This also applies to defects caused by normal wear and tear, in particular, of faders, crossfaders, potentiometers, keys/buttons, tubes, guitar strings, illuminants and similar parts.

4. Damages/defects caused by the following conditions are not covered by this warranty:

- ▲ improper handling, neglect or failure to operate the unit in compliance with the instructions given in BEHRINGER user or service manuals.
- ▲ connection or operation of the unit in any way that does not comply with the technical or safety regulations applicable in the country where the product is used.
- ▲ damages/defects caused by force majeure or any other condition that is beyond the control of BEHRINGER.

5. Any repair or opening of the unit carried out by unauthorized personnel (user included) will void the warranty.

6. If an inspection of the product by BEHRINGER shows that the defect in question is not covered by the warranty, the inspection costs are payable by the customer.

7. Products which do not meet the terms of this warranty will be repaired exclusively at the buyer's expense. BEHRINGER will inform the buyer of any such circumstance. If the buyer fails to submit a written repair order within 6 weeks after notification, BEHRINGER will return the unit C.O.D. with a separate invoice for freight and packing. Such costs will also be invoiced separately when the buyer has sent in a written repair order.

§ 6 WARRANTY TRANSFERABILITY

This warranty is extended exclusively to the original buyer (customer of retail dealer) and is not transferable to anyone who may subsequently purchase this product. No other person (retail dealer, etc.) shall be entitled to give any warranty promise on behalf of BEHRINGER.

§ 7 CLAIM FOR DAMAGES

Failure of BEHRINGER to provide proper warranty service shall not entitle the buyer to claim (consequential) damages. In no event shall the liability of BEHRINGER exceed the invoiced value of the product.

* Customers in the European Union please contact BEHRINGER Germany Support for further details.

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